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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,166	06/25/2001	Chun-Ching Lin	200-0497/24061.330	8185

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HAYNES AND BOONE, LLP  
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DALLAS, TX 75202

EXAMINER
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NGUYEN, MERILYN P

ART UNIT	PAPER NUMBER
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2163

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/888,166	<b>Applicant(s)</b> LIN ET AL.	
	<b>Examiner</b> Merilyn P. Nguyen	<b>Art Unit</b> 2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> .                  |

### **DETAILED ACTION**

1. In response to the communication dated 10/23/2006, claims 1-27 are active in this office action.

#### ***Drawings***

2. The drawings stand objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method steps of claims 1-13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 16, there is insufficient antecedent basis for “the configure file”.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 6-12, 14-15, 17, 20-24 and 26-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin (US 6,029,178).

Regarding claim 1, Martin discloses a computer-based method of data replication of data in a programmable computer system (See col. 5, lines 10-66) comprising the steps of:

- polling a transaction log file (See col. 12, lines 6-16) of a non-relational database (“non-relational source database”, col. 15, lines 3-5) of a proprietary system (Fig. 7 or 8) at a time interval (“scheduled”, See col. 17, lines 43-58) for file transactions of the

Art Unit: 2163

non-relational database (“Change data is applied to a source database...captures the change data...stores...EDM log”, See col. 18, lines 10-30) by at least one data replication server not running the non-relational database (EDM server 804A, Fig. 26);

- responsive to detecting file transactions of the non-relational database, reading the file transactions from the transaction log file of the non-relational database by the at least one data replication server (See col. 12, lines 33-44, and col. 18, lines 31-35, and col. 19, lines 38-49);
- determining if the file transactions read from the transaction log file indicate a change in the non-relational database based on a record type of the file transactions, wherein the record type is one of a delete, put, and update record (See col. 5, lines 35-58, wherein the record type is the edition level of a source database including operation of changing the schema in the source database (update record)); and
- if the file transactions read from the transaction log file indicate a change in the non-relational database, sending the file transactions from the at least one data replication server to at least one relational database (See col. 12, lines 54-65, col. 15, lines 2-24, col. 18, lines 31-35 and col. 19, lines 62-66), wherein the file transactions of the non-relational database sent to the at least one relational database are accessible in real time (See col. 23, lines 45-54, wherein changed data is propagated/moved to target database at a 24 hour 7 days a week process, thus file transactions are accessible in real time. Please see also col. 8, lines 18-23, 44-48 and 54-57).

Regarding claims 2 and 15, Martin discloses wherein the file transactions sent from the at least one data replication server to the at least one relational database are sent via respective relational database connections utilizing a relational database access protocol (See col. 15, lines 57-60).

Regarding claims 4 and 17, Martin discloses wherein the reading step comprises:

- retrieving a configure file indicating from which table of the non-relational database is data to be replicated and to which of the at least one relational database is data to be replicated (See col. 15, lines 25-31);
- initializing a configure value (See col. 15, lines 33-42); and
- connecting to the at least one relational database (See col. 15, lines 33-42).

Regarding claim 6, Martin discloses determining from the configure file if each of the file transactions is to be at least one of deleted, put, and updated in the at least one relational database (See col. 5, lines 27-58).

Regarding claims 7, 20 and 27, Martin discloses the at least one relational database (See Fig. 10, DBMS Target including DB2, Oracle, Sybase, and Informix SQL server) is updated by more than one data replication server (file servers 104) at a time (See col. 8, lines 15-39 and col. 12, lines 53-54, and col. 19, line 62 to col. 20, line 3, wherein one or more of the file systems 104 may store its own database which is desired to be replicated among various of the other file servers).

Regarding claims 8 and 21, Martin discloses wherein the at least one relational database is accessible using an end user query tool (See col. 15, lines 33-35).

Regarding claims 9 and 22, Martin discloses wherein the at least one relational database generates at least one real time report (See col. 29, lines 26-35).

Regarding claims 10 and 23, Martin discloses wherein reading step is performed using at least one data extraction function of the proprietary system (Extract block 202, Fig. 2 and corresponding text).

Regarding claims 11 and 26, Martin discloses sending a real time equipment status from the at least one data replication server to the at least one relational database (See col. 23, lines 46-60).

Regarding claims 12 and 24, Martin discloses change in the non-relational database comprises a change in a field of a table of the non-relational database (See col. 10, lines 30-43).

Regarding claim 14, Martin/Dingman discloses a data processing computer-based system (See Figs. 1-4 and Figs. 12-13) having polling means, reading means and sending means for polling, reading and sending steps of claims 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US 6,029,178), in view of Applicant's Admitted Prior Art (Specification page 8, last paragraph, line 6 to page 9, begin with "the relational database connections 26" and end with "respectively").

Regarding claims 3 and 16, discloses all the claim subject matter as set forth above in claims 1 and 14. However, Martin is silent as to the at least one relational database being relational database selected from the group consisting of: an Engineer Data Analysis (EDA) relational database, and a Manufacture Execution System (MES) relational database. Applicant admits that an EDA relational database, a MES relational database was known at the time the invention was made. Since an Engineer Data Analysis (EDA) relational database, and a Manufacture Execution System (MES) relational database was readily available, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to use the well known EDA relational database, MES relational database as disclosed by Applicant's Admitted Prior Art as the relational database of Martin. The resultant use of the EDA relational database, the MES relational database would have performed the intended (by Martin) function,



Art Unit: 2163

without undue experimentation and with expected and obvious result (See applicant's specification, page 8, last paragraph, line 6 to page 9, "the relational database connections 26...respectively").

6. Claims 5, 13, 18, 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin (US 6,029,178), in view of Draper (US 6,192,365).

Regarding claims 5 and 18, Martin discloses all the claimed subject matter as set forth above and further teaches opening the transaction log file (See col. 19, lines 38-49, Martin et al.). However, Martin is silent as to retrieving a last applied transaction log sequence number from a last update file and locating a last applied record based on the last applied transaction log sequence number. On the other hand, Draper teaches retrieving a last applied transaction log sequence number from a last update file and locating a last applied record based on the last applied transaction log sequence number (See col. 37, lines 13-22, Draper et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include transaction log sequence number into the system of Martin and locating a last applied record based on the last applied transaction log sequence number as taught by Draper. The motivation would have been to enable to restore prior versions of data using log sequence number.

Regarding claim 19, Martin/Draper discloses wherein determining step comprises:

- retrieving a next transaction record;

Art Unit: 2163

- determining if a record type of the next transaction record is one of a delete, put, and update; and
- determining from the configure file if the next transaction record is to be at least one of deleted, put, and updated in the at least one relational database.

See col. 5, lines 35-66, Martin et al.

Regarding claims 13 and 25, Martin/Draper discloses wherein the determining step further comprises writing the transaction log sequence number to the last update file (See col. 37, lines 13-22, Draper et al.).

#### ***Response to Arguments***

7. Applicant's arguments filed 10/23/2006 have been fully considered but they are not persuasive.

**Response to Applicants remarks on 35 USC § 102(e) rejection as anticipated by Martin:**

*Applicants argue:*

Martin does not teach “a record type of the file transactions, let alone a record type that is one of delete, put, and update record”.

*Examiner responds:*

Examiner is not persuaded. Examiner maintains that the following disclosure, Martin column 5, lines 35-58, wherein the record type is the edition level of a source database including operation of changing the schema in the source database (update record))

Art Unit: 2163

*Applicants argue:*

Martin fail to discloses “wherein the at least one relational database is updated by more than one data replication server at a time”.

*Examiner responds:*

Examiner is not persuaded. Martin discloses the at least one relational database (See Fig. 10, DBMS Target including DB2, Oracle, Sybase, and Informix SQL server) is updated by more than one data replication server (file servers 104) at a time (See col. 8, lines 15-39 and col. 12, lines 53-54, and col. 19, line 62 to col. 20, line 3, wherein one or more of the file systems 104 may store its own database which is desired to be replicated among various of the other file servers).

**Response to Applicants remarks on 35 USC § 103(a) rejection as being unpatentable over Martin and further in view of the alleged Applicant’s admitted prior art:**

*Applicants argue:*

Applicants state in the first and second paragraphs of page 11, “Martin does not discloses or suggest “determining if the file transactions read from the transaction log file indicate a change in the non-relational database based on a record type of the file transactions, wherein the record type is one of a delete, put, and update record”...the alleged AAPA do not disclose the features as recited in claims 1 and 14, from which claims 3 and 16 depend”.

*Examiner responds:*

Examiner is not persuaded.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument, a *prima facie case of obviousness* is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. Once such a case is established, it is incumbent upon appellant to go forward with objective evidence of unobviousness. *In re Fielder*, 471 F.2d 640, 176 USPQ 300 (CCPA 1973).

Examiner uses the alleged Applicant's admitted prior art to show the obviousness of the different types of relational databases. Thus, types of relational databases are non-functional descriptive material; therefore a *prima facie case of obviousness* is established.

**Response to Applicants remarks on 35 USC § 103(a) rejection as being unpatentable over Martin and further in view of Draper:**

*Applicants argue:*

Draper does not mention anything about reading file transactions from a transaction log file of a non-relational database or determining if the file transactions indicate a change in the non-relational database.

*Examiner responds:*

Examiner is not persuaded.

Art Unit: 2163

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

*Applicants argue:*

The Examiner's combination arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claims 1 and 14.

*Examiner responds:*

Examiner is not persuaded.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marilyn P Nguyen whose telephone number is 571-272-4026. The examiner can normally be reached on M-F: 8:30 - 5:00.

Art Unit: 2163

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*MN*

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January 03, 2007

*Alford Kindred*  
ALFORD KINDRED  
PRIMARY EXAMINER